REMARKS/ARGUMENTS

The Applicant acknowledges, with thanks, the office action dated March 17, 2008. This amendment is responsive to the March 17, 2008 office action. Claims 1 and 8 have been amended. Claim 15 is new. The subject matter that the packets may be of variable size recited in claims 1 and 8 is not new matter as it is disclosed in paragraphs 5 and 43 of the original specification. The subject matter of new claim 15 is not new matter as it is described in paragraphs 45-51 (see also FIG. 7) of the original disclosure. Reconsideration of this application as amended is requested.

Prior Art Matters

Claims 1, 2 and 6 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No 5,555,396 to Alferness et al. (*hereinafter*, "Alferness"). Claim 3 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Alferness and U.S. Patent No. 6,810,012 to Yin et al. (*hereinafter,* "Yin '012") and U.S. Patent Publication No. 2002/0044529 to Giroux et al. (*hereinafter,* "Giroux"). Claim 4 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Alferness Yin 012, Giroux and U.S. Patent No. 7,047,312 to Aweya et al. (*hereinafter,* "Aweya"), and U.S. Patent No. 6,789,050 to Reesar et al. (*hereinafter,* "Reesar"). Claim 5 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Alferness and U.S. Patent No. 5,463,620 to Sriram. Claim 7 was rejected under 35 U.S.C. §103(a) as being obvious in view of Alferness and U.S. Patent No. 6,826,182 to Parthasarathy. Claims 8, 9, and 13 were rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of U.S. Patent No. 5,926,458 to Yin, (*hereinafter* "Yin '458") and Alferness. Claim 10 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Alferness, Yin '012 and Giroux Claim 11 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Yin '458, Alferness, Yin '012, Giroux, and Reesar. Claim 12 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination of Yin '458, Alferness, and Sriram. Claim 12 was rejected under 35 U.S.C. §103(a) as being obvious in view of the combination

of Yin '458 Alferness, and Parthasarathy. Withdrawal of these rejections is requested for reasons that will now be set forth.

Independent claims 1, as currently amended, recite a method or system for queue management. The method comprises transforming a plurality of consecutive packets into a queue set data structure based on a target queue set data structure size. The plurality of consecutive packets are associated with the queue, comprises a first packet having a first packet size and a second packet having a second packet size (namely the packets in the queue are of different sizes as opposed to the queues themselves). Independent claim 8 recites a system for implementing queue management employing the aforementioned method.

By contrast, Alferness aggregates message segments into a queue. Alferness does not teach or suggest that packets of different sizes can be combined into a queue set data structure up to a target queue set data structure size. Therefore, Alferness does not teach or suggest each and every element of independent claims 1 and 8. Consequently independent claims 1 and 8 are not anticipated by Alferness.

The aforementioned deficiencies in Alferness are not remedied by any teaching of Yin '012. Yin '012 is directed to a cell scheduler for use with a cell queue in an ATM network (ATM packets are of a fixed size). The examiner relies on Yin '012 for teaching performing queuing operations on queue sets based upon a desired data rate. Therefore, the aforementioned deficiencies of Alferness for claims 1 and 8 are not remedied by any teaching of Yin '012. Consequently, claims 1 and 8 are not obvious in view of Alferness and/or Yin '012 when taken alone or in any combination thereof.

The aforementioned deficiencies in Alferness and Yin '012 are not remedied by any teaching of Giroux. Giroux is directed to a method for fair queue servicing. Giroux discloses a target queue size (para. 33) and can change the queue size (para. 35) but Giroux, like Yin '012, is directed to an ATM which has fixed packet sizes. The examiner relies on Giroux for determining the queue service interval based upon a target queue set data structure size. Therefore, the aforementioned deficiencies in Alferness and Yin '012 for claims 1 and 8 are not remedied by any teaching of Giroux. Consequently, independent claims 1 and 8 are not obvious in view of Alferness, Yin '012, and/or Giroux when taken alone or in any combination thereof.

The aforementioned deficiencies in Alferness, Yin '012, and Giroux for claims 1 and 8 are not remedied by any teaching of Aweya. Aweya is directed to a technique for controlling the transmission of data packets through a network by controlling a TCP rate in a network device having a shared buffer with shared buffer space. Nowhere does Aweya teach or suggest transforming a plurality of consecutive packets into a queue set data structure based on a target queue set data structure size, where the plurality of consecutive packets are associated with the queue, and the plurality of consecutive packets comprises a first packet having a first packet size and a second packet having a second packet size. The examiner relies on Aweya for detecting congestion by taking the difference (comparing) the average queue size with the target queue size. Therefore, nether Alferness, Yin '012, Giroux and/or Aweya teach or suggest each and every element of claims 1 and 8. Consequently, claims 1 and 8 are not obvious in view of Alferness, Yin '012, Giroux and/or Aweya when taken alone or in any combination thereof.

The aforementioned deficiencies in Alferness, Yin '012, Giroux and Aweya are not remedied by any teaching in Reesar. Reesar is directed to a method for modeling a web server. The server is modeled by identifying a plurality of sub-systems for each server, where each sub-system is represented as a queue, with each queue operably coupled to each other. The arrival rate and a service time is iteratively adjusted for each queue to account for performance by other queues. Thus, nothing in Reesar teaches or suggests transforming a plurality of consecutive packets into a queue set data structure based on a target queue set data structure size, where the plurality of consecutive packets are associated with the queue, and the plurality of consecutive packets comprises a first packet having a first packet size and a second packet having a second packet size. The examiner relies on Reesar for adjusting the queue service interval based upon congestion. Therefore, nether Alferness, Yin '012, Giroux, Aweya and/or Reesar teach or suggest each and every element of claims 1 and 8. Consequently, claims 1 and 8 are not obvious in view of Alferness, Yin '012, Giroux, Aweya and/or Reesar when taken alone or in any combination thereof.

The aforementioned deficiencies in Alferness, Yin '012, Giroux, Aweya, and Reesar are not remedied by any teaching in Parthasarathy. Parthasarathy is directed to a multi-cast

routing method for asynchronous propagation for messages from any source location to its pre-configured replication nodes in an advanced intelligent network (AIN), is provided. The method comprises the steps of establishing connections between a primary replication node located at a first LAN site and all its peer nodes at same LAN site, creating a transit node located at a second LAN site, and establishing a connection between the primary replication node and the transit node (AND-routing). The transit node becomes a secondary source of replication at the second LAN site. Finally, connections are established between the transit node and all its peer nodes located at the second LAN site. The examiner relies on Parthasarathy for determining that each queue of a plurality of consecutive queues is the same (identical message queues); using one representative queue to represent the plurality of consecutive queues; a replication count of the queue being equivalent to the number of queues in the plurality of consecutive queues; and performing a queuing operation on the representative queue such that the queuing operation is performed on each of the plurality of consecutive queues. Thus, nothing in Parthasarathy teaches or suggests transforming a plurality of consecutive packets into a queue set data structure based on a target queue set data structure size, where the plurality of consecutive packets are associated with the queue, and the plurality of consecutive packets comprises a first packet having a first packet size and a second packet having a second packet size. Therefore, nether Alferness, Yin '012, Giroux, Aweya Reesar and/or Parthasarathy teach or suggest each and every element of claims 1 and 8. Consequently, claims 1 and 8 are not obvious in view of Alferness, Yin '012, Giroux, Aweya Reesar and/or Parthasarathy when taken alone or in any combination thereof.

The aforementioned deficiencies in Alferness, Yin '012, Giroux, Aweya, Reesar, and Parthasarathy are not remedied by any teaching of Yin '458. Yin '458 is directed to a system that identifies a queue service time associated with each of the multiple queues. A particular queue service time is selected that has the minimal value of all identified queue service times. Yin '458 uses the size of the packet at the head of the data queue. Yin '458 does not transform a plurality of consecutive packets into a queue set data structure based on a target queue set data structure size, where the plurality of consecutive packets are associated with the queue, and the plurality of consecutive packets comprises a first packet having a first packet size and a second packet having a second packet size, where the queue set data structure is operated on as a single

entity. The examiner relies on Yin '458 for disclosing a system for queue management comprising a queue set data structure generator configured for transforming a plurality of consecutive data packets into a queue set data structure based on a target queue set data structure size. Therefore, nether Alferness, Yin '012, Giroux, Aweya Reesar. Parthasarathy and/or Yin '458 teach or suggest each and every element of claims 1 and 8. Consequently, claims 1 and 8 are not obvious in view of Alferness, Yin '012, Giroux, Aweya Reesar, Parthasarathy and/or Yin '458 when taken alone or in any combination thereof.

The aforementioned deficiencies in Alferness, Yin '012, Giroux, Aweya, Reesar, and Parthasarathy, Yin '458 are not remedied by any teaching of Sriram. Sriram is directed to a system wherein communications traffic in each node of a high speed network (ATM which as noted herein *supra* uses a fixed packet size structure) is segregated in accordance with signal characteristics. The examiner relies on Sriram for shaping traffic flow of the queue set at a rate of transmission of data from the queue. Nowhere does Sriram Reesar teaches or suggests transforming a plurality of consecutive packets into a queue set data structure based on a target queue set data structure size, where the plurality of consecutive packets are associated with the queue, and the plurality of consecutive packets comprises a first packet having a first packet size and a second packet having a second packet size. Therefore, nether Alferness, Yin '012, Giroux, Aweya Reesar, Parthasarathy, Yin '458 and/or Sriram teach or suggest each and every element of claims 1 and 8. Consequently, claims 1 and 8 are not obvious in view of Alferness, Yin '012, Giroux, Aweya Reesar, Parthasarathy, Yin '458 and/or Sriram when taken alone or in any combination thereof.

Therefore, for the reasons just set forth Alferness, Yin '012, Giroux, Aweya, Reesar, Parathasarathy, Yin '458 and/or Sriram do not teach or suggest each and every element of independent claims 1 and 8, thus claims 1 and 8 are not anticipated and/or obvious in view of Alferness, Yin '012, Giroux, Aweya, Reesar, Parathasarathy Yin '458, and/or Sriram. Claims 2-7 directly depend from claim 1 and thus contain each and every element of claim 1; therefore claims 2-7 are not anticipated and/or obvious in view of Alferness, Yin '012, Giroux, Aweya, Reesar, Yin '458, and Parathasarathy for the reasons already set forth for claim 1. Claims 9-15 directly depend from claim 8 and thus contain each and every element of claim 8; therefore claims 9-15 are not anticipated and/or obvious in view of Alferness, Yin

'012, Giroux, Aweya, Reesar, Yin '458, Parathasarathy and Sriram for the reasons already set forth for claim 8.

In addition to the reasons set forth above, new claim 15 that at least one of the plurality of consecutive packets is a multicast packet. The method further comprises determining a number of times the multicast packet is to be replicated. A first number of copies is computed that represents how many copies of the multicast packet can be processed by a first queue. Data is inserted into the queue data structure the indicating the multicast packet is to be replicated by the first number of times in the first queue. A remaining number of times the multicast packet is to be replicated is computed. A second queue set data structure is generated for a second queue. The second queue set data structure comprises a number of times the packet is to be replicated within the second queue set data structure and a number of times the second queue set data structure is to be replicated. The product of the number of times the packet is to be replicated within the second queue set data structure and the number of times the second queue set data structure is not greater than the remaining number of times the multicast packet is to be replicated.

By contrast, Parthasarathy discloses replicating a multicast message can be contained within individual queues or within one queue (see col 5 lines 6-22). Parthasarathy does not teach or suggest that the message may be replicated a first number of times within a first queue and a second number of times within a second queue. Moreover, the second number of times within the second queue is a product of the number of times the packet is replicated within the second queue set data structure and the number of times the second queue set data structure itself is to be replicated (e.g. for example, using the example provided in the specification, to replicate the multicast packet 64 times, the packet can be replicated 16 times within the queue set data structure and the queue set data structure is replicated 4 times or 4x16). Parthasarathy does not teach or suggest replicating a multicast packet within a queue set data structure and replicating the queue set data structure a number of times. The aforementioned deficiencies in Parathasarathy are not remedied by any teaching of Alferness, Yin '012, Giroux, Aweya, Reesar, and Yin '458. Therefore, Parathasarathy Alferness, Yin '012, Giroux, Aweya, Reesar, and Yin '458 do not teach or suggest each and every element of claim 15. Consequently,

addition to the reasons set forth herein for claims 1 and 8, claim 15 is not obvious in view Parasarathy, Alferness, Yin '012, Giroux, Aweya, Reesar, Yin '458 and/or Sriram.

Conclusion

Withdrawal of the rejections to this application is requested for the reasons set forth herein and a Notice of Allowance is earnestly solicited. If there are any fees necessitated by the foregoing communication, the Commissioner is hereby authorized to charge such fees to our Deposit Account No. 50-0902, referencing our Docket No.72255/00462.

Respectfully submitted,

Date: 8-18-08

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